

Regional database for watershed classification, nutrient-response relationships, and diagnostic indicators in support of nutrient criteria development

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U.S. EPA has published recommended nutrient criteria for streams as a starting point for protecting surface water resources and is encouraging States/Tribes to refine the proposed nutrient criteria, with help from EPA's Regional offices. U.S. EPA's recommended criteria are not directly linked to designated uses, and States/Tribes need additional information to develop criteria that are based on effect thresholds related to aquatic life uses. This research project is developing an approach for collating and analyzing existing data to identify stream types that respond similarly to nutrients and to derive diagnostic indicators of stream impairment due to nutrients. Together, these activities will lead to the documentation of nutrient response relationships and effect levels within a classification framework, which will provide EPA Regions, States, and Tribes with the framework for the development of nutrient criteria designed to protect aquatic life uses. Work is focused on EPA Region V (MN, WI, MI, IL, IN, and OH) and surrounding states. To facilitate analysis of existing data, a geo-referenced regional MSAccess database has been constructed which contains flow, water quality, algal, macroinvertebrate, fish, and habitat data with associated metadata and look-up tables. Consistent coding and reach-indexing allow users to compare data across sources. In cooperation with US EPA's Office of Environmental Information, the regional database will be made available to regional users with web-based analytical tools. This abstract does not necessarily reflect EPA policy.